THE

Saturday Magazine.

No. 730. NOVEMBER 18TH, 1843. PRICE ONE PENNY

THE ROYAL RESIDENCES OF SCOTLAND.

III.

FALKLAND*.

The fretted roof look'd dark and cold,
And totter'd all around;
The carved work of ages old
Dropp'd wither'd on the ground,
The casement's antique tracery
Was eaten by the dew,
And the night-breeze whistling mournfully,
Crept keen and coldly through.

In former times Falkland, now little more than a country village, was a place of great resort and importance. The frequent residence of royalty at the palace during the reign of the last three Jameses brought in its train the nobility and the wealthier of the lesser barons to the burgh, and many of them resided within it or in its vicinity. Hence the inhabitants were remarkable for their good-breeding; and "Falkland bred" or "Falkland manners" is to this day a proverbial expression, still not altogether undeserved.

Folk said that he was Falkland bred,
And dancit by the buke.

The parish of Falkland is in the Cupar district of Fifeshire. Its surface is beautifully diversified, and in many parts finely ornamented with wood. At the north, near the Eden, is a considerable tract of level ground, which ascends south until it rises in the East Lomond hill (1466 feet), and the high ridge which connects it with West Lomond. In the general landscape of this portion of the country, the range of the Lomonds, with the two lofty peaks which form their east and west terminations, are beautiful and interesting features, and the different views from the summits are extensive and finely diversified. The ancient forest of Falkland, in which the Scottish kings were wont to enjoy the pleasures of the chase, has disappeared, with the exception of the natural wood at Drumdreel, in the neighbouring parish of Strathmiglo. So long as Falkland was a royal residence this forest was carefully preserved, but after the departure of James the Sixth to England it became neglected, until it was utterly destroyed by Cromwell, who ordered the trees to be cut down for the use of the fort then erecting at Dundee. "This yeare," (1652) says Lamont, "the English beganne to cutt downe Fackland wood; the most part of the tries were oakes."

The village of Falkland is situated at the base of the East Lomond hill, which so far overshadows it that it hides the sun from the inhabitants during the winter solstice. Mr. Robert Chambers, in his *Picture of Scotland* says:—

* Dr. Jamieson suggests that this name is a contraction from Falconland, and may have been derived from some celebrated breed of hawks; a species of hawk being expressed by *falk* in the Suio-Gothic; *vealk* in the Anglo-Saxon, and *valck* in the Teutonic. Much uncertainty, however, arises from the variable orthography of the word; for it is not only written *Falkland*, *Faulkland*, *Faukland*, and *Falcoland*, but in a charter of Malcolm the Fourth, 1160, it is written *Falecklen*.

This most primitive and curious old burgh, nestling in all its aboriginal thatch and irregularity, at the bottom of a lofty green hill, with a plain stretching out on all the other sides, has an appearance at once pleasing and picturesque. It is a thing at the same time perfectly unique in its kind. Being remote from all great roads and happily ignorant of manufactures, nothing has ever been done to improve, in other words to destroy, the town. It is in these latter degenerate days the same tissue of picturesque old cottages and unpaved streets it ever was—a complete and last remaining specimen of the Scottish burgh of the sixteenth century.

It consists of a small square market-place, from which diverge a number of narrow streets and lanes, up hill and down hill, in various directions. With the exception of one or two in the market-place, the houses are thatched, of small size, and very old. Falkland is thirty miles distant from Edinburgh. It was originally a burgh of barony belonging to the Earls of Fife, the descendants of Macduff, the thane of the district who acquired such celebrity in the time of Malcolm Canmore, he having been the chief instrument of his restoration to the throne of his ancestors, as he had been the great opponent of the usurper Macbeth. Falkland was erected into a royal burgh in 1458, during the reign of James the Second. The preamble to the charter of erection states, as the reasons for granting it, the frequent residence of the royal family at the manor of Falkland, and the damage and inconvenience sustained by the many prelates, peers, barons, nobles and others of their subjects, who came to their country seat, for want of innkeepers and victuallers. This charter was renewed by James the Sixth, in 1595. These charters also conferred the right of holding a weekly market, and of having four fairs or public markets annually. Two other public markets were added subsequently; one called the lintseed market, held in spring; and the other the harvest market, held in autumn.

The earls of Fife at an early period had a residence here, called the Castle of Fife. This fortalice was an important place, and for the first time enjoyed in effect the honours of a palace during the time of Robert, earl of Fife, afterwards Duke of Albany, and brother to King Robert the Third. This nobleman, during the long period of nearly fifty years, had all the power of the state in his hands, under the different titles of Lieutenant-Governor, Governor and Regent. Apparently not satisfied with delegated authority, he sometimes styled himself "Regent by the grace of God," and spoke of "our subjects of Scotland," as if he himself were king; and although he gave to Falkland the more humble designation of *Manerium nostrum de Fawkland*, it was in fact the seat of his authority; for his aged and infirm brother constantly resided in the island of Bute.

But Albany imparted to this *Manor of Fawkland* an unenviable celebrity by an act of horrid cruelty, which will render his name for ever infamous. The heir apparent, David, duke of Rothsay, eldest son of Robert the Third, a youth of good abilities, handsome person, young, active, and chivalrous, was regarded with an evil eye by his uncle. Fearing that he might prove the rival to his power, he used the basest means to destroy him. He deceived the simple old king with malicious reports of his son's wildness and indocility, and so far prevailed on him that the king granted to Albany a commission to arrest the prince, and detain him for some time in captivity, in order to tame the stubborn spirit of profligacy of which he was accused. Being enticed by false pretences into Fife, he was shut up in the tower of Falkland, where he was consigned to the cruel fate of being starved to death. His life is said to have been for some days feebly sustained by means of thin cakes pushed through a small crevice in the wall by a young woman, daughter to the governor of the castle; but her mercy being viewed by her inhuman father in the light of perfidy to him, she was put to death. Even this example did not deter another kind-hearted female employed in the family as a wet nurse, from attempting to save his life after the manner of the Roman matron, but she in like manner fell a sacrifice to her compassion. But the historian rejects these traditions on the ground, that where so stern a purpose was adopted, it is not likely that any access would be permitted to such means of relief. The death of the prince led to a parliamentary inquiry, which was convened under the management of the murderers. They admitted having arrested the prince, but imputed his death to disease. They were acquitted, "yet (says Sir Walter Scott) they showed a consciousness of guilt, by taking out a pardon in terms as broad and comprehensive as might shroud them from any subsequent charge for the murder which they denied, as well as for the arrest which they avowed."

Falkland does not appear to have been much used as a royal residence till the reign of James the Fifth. "It can hardly be supposed (says Jamieson) that the first of this name could look with complacency on the place that had been the prison and slaughter-house of his brother, whose fate, his own would, in all probability, have rivalled, had he not had a safer prison-house awaiting him in an enemy's country*."

After the lands and castle of Falkland came to the crown by the forfeiture of the earldom, the castle was the occasional residence of the first three Jameses; they enjoyed the pleasures of the chase here and in the Lomond hills. It is not known whether James the Second, or James the Third, pulled down the castle and began the erection of the palace. Both these monarchs were fond of architecture, and both employed workmen at Falkland. After the palace was completed by James the Fifth, it became a favourite residence with the Scottish monarchs. James the Fifth was greatly attached to the place, although, in his youthful years, it was to him a kind of prison-house, when the ambitious earl of Angus held him in thrall, surrounding him with his own dependents, whom James felt were his gaolers rather than his servants.

Wherever he turned, his eye lighted on the dark complexion and vigilant eye of a Douglas. Douglas of Parkhead commanded a guard of one hundred men, rather to control the king's motions than to defend his person. His minister Angus never stirred from his presence, or if he did, he left him under the yet more stern custody of his brother, Sir George Douglas.

The king, at length, disarmed suspicion by appearing to be wholly devoted to the pleasures of the chase; when, seizing the opportunity of the absence of the earl of Angus, and the other principal residents, he ordered a solemn hunting-match for the next morning; but he had no sooner retired to rest than he assumed the dress of a yeoman, and getting to the stables unperceived, mounted with two faithful attendants, and galloped to Stirling, where he occupied the strong castle until he felt himself safe from the power of the Douglases.

This, however, was only a temporary desertion of Falkland. James afterwards held his court here in all the barbaric magnificence of the period. Falkland was then not only a place of resort to the higher classes, but the peasantry were doubtless permitted to enjoy that festivity here which was most congenial to them. From the peculiar habits of James the Fifth, it may be well supposed that he did not exclude from Falkland those with whom he was frequently accustomed to associate in disguise. And this seems proved by an old poem, which contains an express reference to the jovial scenes of the common people.

Was nevir in Scotland hard nor sene,
Sic dansin nor deray,
Nouthir at Falkland on the Grene,
No Pebillis at the play.

* The young prince being about to proceed to France to be educated, the vessel in which he was embarked was taken by an English corsair. The prince was sent as a prisoner to Henry the Fourth of England, who, knowing the importance of possessing the royal hostage, resolved to detain him, although a truce between the two kingdoms actually subsisted at the time. "The fact is," said the king, "the Scots ought to have given me the education of this boy, for I am an excellent French scholar."

James the Fifth died at Falkland, it is said, of grief at the disgrace brought upon his crown by the opposition of his factious and turbulent nobility. Here, too, Mary of Guise, his widowed queen, often resided, while she governed the kingdom for her infant daughter.

Here, too, the youthful Mary, after her return from France, often sought relief in the sports of the field, from the many troubles of her short, but unhappy reign. She appears to have first visited Falkland in September, 1561, on her way from St. Andrews to Edinburgh. She returned at the beginning of the following year, having left Edinburgh to avoid the brawls which had arisen between Arran and Bothwell; and resided partly at Falkland, and partly at St. Andrews, for two or three months. She occupied the morning in hunting on the banks of the Eden, or in trials of skill in archery in her garden; and her afternoons in reading the Greek and Latin classics with Buchanan, or at chess, or with music. During 1563, after her return from her expedition to the north, she visited Falkland, and made various short excursions to places in the neighbourhood; and again in 1564, and after her marriage with Darnley in 1565. After the birth of her son, she visited Falkland, apparently for the last time, as the circumstances which so rapidly succeeded each other after the murder of Darnley, and her marriage with Bothwell, left her no longer at leisure to enjoy the retirement it had once afforded her.

This palace seems to have been the favourite residence of James the Sixth, while he remained in Scotland. After the raid of Ruthven James retired here, calling his friends together for the purpose of consulting as to the best means of relieving himself from the thraldom under which he had been placed. He was again at Falkland in June, 1592, when the earl of Bothwell made one of his desperate attempts on the king's person. After the riots in 1596, James again retired here. He was also residing here in the autumn of 1600, when the celebrated Gowrie conspiracy took place. The last visit of James to Falkland was in 1617, when, being king of Great Britain, he made a progress through the kingdom.

In 1633, when Charles the First visited Scotland, he slept three nights at Falkland, while on his way to Perth, and on his return he slept two nights in going to Edinburgh, and created several gentlemen of the county knights, on the occasion.

On the 6th July, 1650, Charles the Second, who had returned from the Continent on the 23rd of the preceeding month, visited Falkland, where he resided some days, receiving the homage of such of his subjects as were desirous of his restoration to the crown of his ancestors; and here he again returned after his coronation at Scone, on the 22nd January, 1651, and remained some days.

In 1715, after the battle of Sheriffmuir, the notorious Rob Roy garrisoned the palace with a party of the Mac Gregors, and proceeded to lay the country under contribution for miles round. They continued their violent practices for a considerable time quite unmolested, and at length retired with a great booty.

The remains of this palace bear testimony to its former magnificence. The south front, which is the most ancient portion, is the part now inhabited. On each floor there are six windows, square-topped, and divided by mullions into two lights. Between the windows the front is supported by buttresses, enriched with niches, in which statues were placed, the mutilated remains of which are still to be seen, and terminating in ornamented pinnacles, which rise considerably above the top of the wall. The lower floor is the part inhabited, and the upper floor is entirely occupied by a large hall, or audience chamber, of which the splendid ceiling, carved and painted in a most beautiful and gorgeous style, is still entire. The western part of this front of the palace is in the castellated style, and of greater height than the other; it is ornamented with two round towers, between which is a lofty archway which forms the entrance to the court-yard behind, and which in former times was secured by strong doors, and could be defended from the towers which flank it. At the top of the double tower is a stone with the inscription DEUS DAT CUI VULT; "God bestows his gifts upon whom He pleases." James the Fifth appears to have erected two ranges of building, equal in size to that described, on the east and north sides of the court-yard. The palace therefore, as completed by him, occupied three sides of a square court, the fourth or western side being inclosed by a lofty wall. The range of building on the north side of the court has now entirely disappeared, and of that on the west, the bare walls alone remain; these two portions of the palace having been accidentally destroyed by fire in the reign of Charles the Second. The addition made by James being in the Corinthian style of architecture, he made the inner front of the older part of the building to correspond by erecting a new façade in the same style. The building consisted of two stories, a basement or lower floor, and a principal one, the windows of which, for the period, are large and elegant. Between the windows the façade is ornamented with elegant columns, not reducible, as Pennant says, to any order, but of fine proportion, with capitals approaching the Ionic scroll; and above the windows are medallions, presenting a series of heads carved in high relief, some of which are beautifully executed, and would suggest the idea that more than native talent had been engaged in the work. On the top of the basement which supports the pillars, are carved, alternately, the initials of the king and of his queen, I. R., M. G., 1537, or Jacobus Rex, Maria de Guise. The architect who designed this building, and superintended its erection, was probably Sir James Hamilton, of Finnart, who was cup-bearer to James the Fifth, steward of the household, and superintendent of the royal palaces. He was accused of high treason, tried, convicted, aud executed, in August, 1540.

During a long series of years the Palace of Falkland, deserted by its royal inmates, was suffered by the neglect of the keeper (who held his office in connection with the neighbouring estate) to fall into decay, the roof and the floors were destroyed, and almost every thing but the walls gave way. At length the late Mr. Bruce, of the State Paper Office, one of His Majesty's printers for Scotland, having purchased the estate, determined to rescue the palace from further ruin. In the year 1823 he began, what may fairly be called, a restoration; he renewed the roof and the floors, opened the windows that had been bricked up, filled up the crevices in the walls with coloured cement, fitted up the interior as an elegant modern mansion, laid out the court-yard with flowers and shrubs, and converted the ground in the immediate neighbourhood into a garden. Before the whole of these elaborate and expensive operations had been completed, Mr. Bruce was removed by death; but the work has been perfected, according to his appointment, by his niece and heiress. "It is now therefore possible (says Mr. Chambers) to contemplate this remarkable monument of the taste and magnificence of one of our most beloved monarchs with a feeling the reverse of the mortification which formerly accompanied the sight."

The view from the southern parapet of the palace has long been admired. On the one side the Lomond hills spread out their green sides, and point their conical summits to the sky; on the other the whole strath of Eden, the Howe of Fife from Cupar to Strathmiglo, lies open and exposed; and whilst the spectator will naturally inquire after and regret the woods of Falkland, he will find that the late proprietor has done all in his power to make up for the spoliations of Cromwell's soldiery.

On the east of the palace is a large plain, in which a little knoll rises here and there above the level. This consists of moss, which has lately been well drained, and exhibits the remains of what was called the Rose loch,—the knolls having been islets. Indeed the original properties of the soil of Falkland in general have been entirely changed. The heathy swampy wastes have been drained, and numerous agricultural improvements effected at the expense of the proprietor, who let out his farms on improving leases, and turned a wilderness into a garden.

At the time of Mr. Pennant's visit, he observed near the palace several houses "marks of the munificence of James the Sixth, who built and bestowed them on his attendants, who acknowledge his bounty by grateful inscriptions on the walls mostly in this style:—

"'Al praise to GOD and thankis to the most excellent monarche of *Great Britane* of whose princelie liberalitie this is my portioune. Nicol Moncrief, 1610.'"

We may now bid farewell to Falkland in the words of Sir David Lyndsay, who, notwithstanding the badness of the ale brewed in the burgh, led, according to his own account, a very pleasant life here.

Fare weill, Falkland, the forteress of Fyfe,
Thy polite park, under the Lowmound law:
Sum time in the, I led a lustie lyfe,
The fallow deir, to se thame raik on raw,
Court men to cum to the, thay stand grait aw,
Sayand, thy burgh bene of all burrowis baill,
Because, in the, they never gat gude aill.

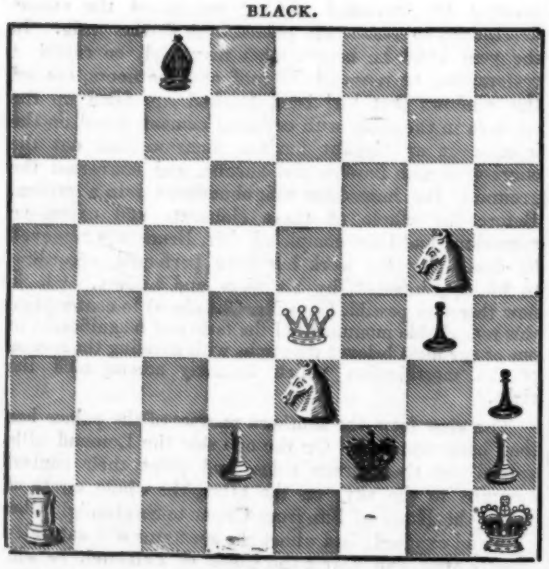
CURIOUS CHESS PROBLEMS.

III.

SOME of the positions of the pieces on the chess-board give rise to problems of a very remarkable character. Chess problems illustrate the power which a good player has over an inferior antagonist, in forcing him to make moves which lead to a check-mate. There are, however, a few curious examples in which the first player exerts this power to compel the second player to check-mate him within a prescribed number of moves. Such an example occurs in the following problem, which is of German origin.

White is to move first, and to compel Black to check-mate him in three moves.

BLACK.



WHITE.

THE MUSIC OF THE CHINESE.

II.

IN our last notice of the music of the Chinese we gave an account of their stringed instruments as derived from Mr. Lay's pleasing work; we now proceed to collect from the same authority, a few particulars relating to the wind instruments in use among that people.

Fig 1.

CHINESE FLUTE.

The Chinese flute, or *hwang teih*, is nearly twice the length of our fife, and far more sightly in appearance, though from the absence of a key, it scarcely deserves to be ranked with the German flute. It is made of bamboo wood, and has the embouchure at a good distance from the end—a circumstance that improves its figure, as used by a good performer. About two inches below the first embouchure there is a second; but this is covered with a bit of transparent web or film, taken from the inside, it is said, of a certain reed. The two holes are intended to give the player the means of varying the pitch at pleasure. In all, there are ten small holes in this flute but only six are effective, and these are placed at equal distances from each other. This equidistant arrangement of the six apertures is worthy of notice, as it appears to be the origin of the diatonic scale.

The flute sounds very indifferently in the hands of the Chinese about Canton, because they blow with too much violence and without any skill in the pressure or adjustment of the lip. The merits of the instrument must not, however, be judged by their performance, for upon trial it has been found that the softest breath will induce it to "discourse most eloquent music." It is neatly made, and is bound round with silk at intervals to prevent the wood from splitting and to sweeten the sound. It is sold at the low price of fifty cents (2*s*. 3*d*.). "It is with this as well as the lute and the timbrel," says our author, "that the Chinese dame cheers and beguiles the lonely and unexciting hours of her seclusion. There, with softer usage, it speaks a different language, as it does without doubt among the performers of the north, for we are not always indulged with the best at Canton, though we may now and then get a glimpse of what is good."

The Chinese clarinet possesses all the essential parts of our instrument, except the finish, and sweetness of its sound. The bell at the end of the Chinese instrument is of copper, as is also the mouth-piece, which increases the effect till the sounds are of a deafening kind. It is blown with a reed like our clarinet. It has eight holes, of which one is stopped by the thumb, and a couple of loops upon the bell, to which certain silken ornaments are attached at the pleasure of the owner.

This instrument is in general favour among the Chinese; its noisy din being indispensable on occasions either of joy or sorrow. It takes the lead in the musical companies, whether at the temple or the theatre, and is heard both at marriage entertainments and funeral processions. Mr. Lay tells us that his music master, who was the leader of a native band, had a wonderful predilection for this instrument; so that ever and anon he would stun the ears with a loud and long-sustained blast, and then look round with conscious pride for the applause of the bystanders.

One kind of Chinese horn resembles the clarinet, and is often called by the same name. It is made of thin copper, and consists of a conical bell, surmounted by a shaft with a ball at the top, and a stem made of bronze, which is retractible within the bell, on the principle of our trombone. The sound of this instrument is grave, and not very agreeable when heard by itself, but it may probably form a pleasing relief to the shriller instruments when it is in good hands, and used in concert. Another

kind of horn is made up of a stem and a crook, expanding into a bell: the stem is composed of two parts, one of which can be drawn into the other. This second kind is made of two sizes, and like the former emits very grave sounds, which can be modified by elongating or contracting the stem of the instrument.

Fig. 2.

CHINESE ORGAN.

But one of the most interesting musical instruments among the Chinese is that which is called by Mr. Lay, Jubal's organ, and which may be considered the embryo of our multiform and magnificent organ. This consists of several tubes varying in length, so as to utter sounds at harmonic intervals from each other. "These tubes are inserted into a bowl, which must be taken as the humble representative of the wind chest, while the office of the bellows is performed by the human breath. Some of these tubes are pierced near the base to prevent their sounding, except at the pleasure of the performer. They stand in groups in the following order,—4, 3, 2, 1, 1. By covering the first set with the fore-finger, and breathing softly into the mouthpiece, a most charming *concentus* of sweet sounds is heard, with the harmonic divisions of the octave and twelfth as the impulse is augmented. To produce the desired results in the remaining sets, the breath must be drawn with a smart and clear inspiration. In fact, any one single tube may be made to sound by itself by stopping the crevice, and drawing the breath in this way, which cannot be done by blowing without the intermixture of other sounds. I have ascribed its invention to Jubal, and think it was the *hugab* (or organ) mentioned in Genesis and Job."

Fig. 3.

CHINESE DRUM.

There is a great variety of drums and cymbals in use among the Chinese. Large drums are suspended in the temples, which are often sounded by the priests in the place of prayer and praise, for they seem to think a loud noise of this description more acceptable than much speaking. A smaller sort is used upon the stage, and these either rest upon the ground or upon a stand. A small hemisphere of wood hollowed and covered with horse-hide is also employed in the chorus. This instrument rests upon three legs, and is beaten with two sticks, which produce a clicking sound.

The *lo*, or gong, is an instrument of which there are two kinds in use among the Chinese, but the original, whence they were derived, was nothing more than a platter used in washing, &c. One kind is large and flat; the other rounded with a cylindrical edge. The sound emitted by it when struck with a stick is very powerful in proportion to its size. This shrill instrument is used as an accompaniment to the drum. In the use of these two instruments, it seems to be a rule that the gong shall only vary in rapidity of strokes, without any attention to time, while the business of making the percussive sounds into agreeable periods is left entirely to the drum.

Noises, and loud ones too, with little or no cadence, were the first elements of music; and the Chinese, who strangely blend the rudest attempts of invention with the refinements of art, still retain a fondness for that which deafens the ear of a stranger.

The great bell requires to be mentioned among the instruments of percussion in China, for by the translation given from Mukhung, an old poet, we find that

In *size*, it did not deviate from the *Keun*, or standard of measure.

In *weight*, it did not overpass the *Shik*, or standard of weight.

The *concert-pitch*, the *measuring-rod*, the *standard of capacity*, and the balance, were all derived from this.

The instrument of music waits for the sound of the bell, and then is tuned.

The musical scale also waits for the sound of the bell, and then commences.

The bell is seen in all the principal temples hung in a large wooden stand, where it is struck at vespers, and other hours of prayer, with a maul or wooden hammer. It existed in the East many centuries before it was known in the West, but without a clapper, so that neither skill nor dexterity are required in its use. "In China it stood in times of yore as the regulator of the musical system,—as the grand referee in statics and all matters of mensuration,—as the recorder of the fleeting periods of the month,—and still continues to be a sort of precentor in addresses delivered to an unknown deity."

There is also a wind instrument called *sang*, which Mr. Davis describes as emitting as nearly as possible the tones of the Scottish bagpipe, without the buzzing sound that is produced by what is called the *drone* of that instrument. "The melody of the Chinese and Caledonian pipes," says this writer, "is so exactly similar, that it has never failed to excite the attention of the Scotch who have visited China; and the recognition has been mutual, for when a Highland piper (who had been taken out in an India-man) was sent up to Canton to attend a meeting of the sons of St. Andrew on the national anniversary, the Chinese were no less struck with the picturesque costume of the plaided Gael than ravished by the strains that proceeded from his instrument."

No local associations are so impressive as those of guilt. It may be observed, that as each one has his own separate remembrances, giving to some places an aspect and a significance which he alone can perceive, there must be an unknown number of pleasing, or mournful or dreadful associations, spread over the scenes inhabited or visited by man. *We* pass without any awakened consciousness by the bridge, or the wood, or the house, where there is something to excite the most painful or frightful ideas in another man if he were to go that way, or, it may be, in the companion who walks along with us. How much there is in a thousand spots of the earth, that is invisible and silent to all but the conscious individual!—FOSTER.

CALMNESS of judgment consists in the power of the mind to resist external disturbances, while a cool judgment results from the absence of internal disturbance; or rather from the power of the mind to control its emotions. Such internal disturbance may proceed from various causes, such as, nervous irritability,—or the liveliness of the imagination,—or the sensibility of the moral feelings,—or the prevalence of malignant passions. Persons who have this coolness of judgment are likely to be successful in trade. It may be observed, however, that owing to their frequent success in the conduct of affairs they are peculiarly liable to self-conceit: and this vanity becomes an indirect motive which tends to pervert or disturb the understanding. Such men, in order to obtain an immediate gratification of their conceit in their own skill or cunning, often confine their views to the present moment, seizing upon small advantages while they become blind to great and distant objects. The common phrase, "worldly wisdom," is the name of that sort of *mental short-sightedness* which is produced by self-conceit on a cool judgment. But coolness of judgment is truly admirable when it results not from the want of imagination and moral sensibility, but from that *strength of will*, which is able, whenever it is necessary, to keep all the emotions in subjection.—*Elements of Thought.*

THE NOVEMBER FOGS.

AMONG the peculiarities which, in the estimation of foreigners, make London different from any other city in the world, may be reckoned its winter fogs, those dark, rolling, solid-looking compounds of moisture, smoke, gas, and innumerable other products, which such a city as London abundantly supplies, and which are sufficient one would almost suppose to render a residence among them unendurable. So, at least, think the good people abroad, who talk much among themselves of the horrors of a November fog, but would as soon think of congratulating a native of Smyrna on the presence of the plague in his city, as talk to a Londoner of his native fog. Such, however, is the force of habit that the densest November fog produces no other change in our habits than causing us to light our lamps and candles, and to move and drive about with more than ordinary caution.

And why should we fear a November fog? Is it so deadly and so dangerous as people suppose? On the contrary, is it not notorious that the London hospitals are clearer during November than at any other time of the year? And is it not quite a mistake to suppose that these dense fogs are peculiar to London? Are they not common to all large cities though, perhaps, less frequent than in our metropolis? We read of one that visited Amsterdam of so dense a character that people ran against each other, even though they had torches in their hands;—two hundred and thirty persons were drowned by falling into the canals;—their cries were heard, but people were afraid to advance to their relief. We also read of a great fog which occurred at Paris, one 12th of November, in which the obscurity was such that persons lost their way in the streets as if they had been blind;—it was necessary to be near a very brilliant light to perceive a faint trace of it. Fourcroy, the celebrated chemist, described this fog as displaying itself in spiral groups like corkscrews, and that it had a remarkable taste. This Parisian fog certainly out-horrors our choicest "London peculiars;" for we never have any corkscrews, and the taste is nothing very particular.

To enjoy a London fog to perfection you should ascend St. Paul's cathedral some day when the sun's place in the heavens is but just discernible. After climbing up about three hundred feet through the dense fog of the churchyard, you will perhaps be surprised on stepping out upon the balcony to find yourself in the bright sunshine,with the fog below your feet rolling and subsiding like a huge sea. You are surprised at its small elevation, it scarcely reaches halfway up the cathedral dome. But is it not a beautiful, a remarkable sight?—the bright sun lights it up fantastically, and adorns it with a few faint-coloured tints, making it not unlike the effect produced by the webs of the gossamer spider covering a sunny field in Autumn. On examining the structure of this fog, it is found to be by no means uniform: a long depressed line marks the course of the Thames, illustrating the fact that a clear water surface supplies the vapour of the fog less perfectly than damp ground. Here and there, like huge hummocks, the fog stands out denser than the surrounding parts, marking the vicinity of some great brewery, or a more than usually dense population, where houses are thick together, and smoke issues from every chimney. Yonder where the fog stands so high, the subsoil is of clay, from which the moisture escapes with difficulty; in other parts where the fog is low, the ground is of sand or gravel, through which the wet filters easily. The neighbourhood of the parks, and the wider streets, and larger houses, are also indicated by the thinner texture of this vaporous ocean.

London fog differs essentially from clouds and mists and dew properly so called. Clouds are formed in the sky at some height in the air; but fog is an *earth-cloud* formed at the surface of the earth, and seldom ascending many feet above it. Clouds and mists and dew are all wet and damp and uncomfortable; but London fog is perfectly dry, and enfolds the city as in a garment. Dew is formed by the cooling down of the earth's surface below the temperature of the air sufficient to condense the moisture of the air upon it in liquid drops; whereas a fog is formed by a cold upper stratum of air coming in contact with a lower and warmer stratum, and partially condensing the vapour wherewith it is charged.

But London fog consists of something more than vapour of water partially condensed. Every house contributes a number of little fiery volcanoes, which are busy all day long supplying to the air vapour of water, sulphur, carbon, as well as sulphurous, nitrous, and pyroligneous acids, and some other matters, all of which become to a great extent mixed with the vapour of the air. It must further be noticed that the various constituent parts of the fog, being formed at the surface of the earth are in the same electrical state as the earth itself, and hence (the air being a non-conductor) they repel each other, and are repelled by the earth, and thus remain suspended. This also furnishes the reason why the fog is dry, and does not adhere to any surface.

A very moderate wind is sufficient to disperse a fog; but an increase of moisture at the surface without rain, or an increase of temperature without wind, generally makes the fog more dense, because the heat increases the evaporation of the moistened surface. Thus it often happens that London is free from fog during the middle of the night and the early hours of the morning, but as soon as the fires are lighted the fog begins to appear. It sometimes clears away about noon, and becomes more dense towards evening, as the gas and other lamps are lighted, but the chief reason probably is, that after sunset the natural fall of the atmosphere presses the fog nearer to the earth's surface, and consequently makes it more dense. The same cause also sends the fog down the chimneys which have no fire, producing in the apartments a strong odour of soot, or a smell as of something burning. By night this has often caused anxiety.

The London fog has a peculiar tidal motion, tending, however, rather down than up the river, towards the marshes, where it performs a peculiar service to our markets in supplying them with much finer wild fowl than are produced in districts not visited by fogs. These birds feed only during twilight, and as the fog extends the twilight over nearly the whole day, they are constantly feeding. The fog also protects them from the fowlers, and thus when the birds are caught in clear weather after a fog they are found to be in very fine condition.

The formation of London fogs, as well as of fogs in general, may be further illustrated by considering those peculiar to rivers. After sunset the general surface of the earth cools; but land and water cool very differently, the cooling of the land being limited to the surface, whereas in water the upper stratum, by cooling, sinks, and its place is supplied by water from below; so that, until the whole mass has reached its point of greatest density by cold, the surface cannot be the coolest part. Hence, whenever water exists in considerable volume, the temperature is nearly that of land, or only a few degrees below it, and above 45° at sunset, its surface during night, in clear and serene weather, will be warmer than that of the nearest land, so that the air above the land will become colder than that above the water; and each having a due proportion of aqueous vapour, and the situation of the ground being such as to permit the cold air from the land mixing with the warmer air above the water, a mist or fog will result, the density of which will be greater as the land on each side of the water is higher, and its depth and temperature greater.

The appearance of fogs in different cities is frequently simultaneous. At the time a great fog prevailed in London, Dublin was visited by one of equal density.

Fogs have been known also to precede a strong westerly wind at Manchester, London, and Paris, and by nearly the same short interval of time at each station.

The poet Crabbe gives a very true description of a fog at the sea-coast.

When all you see through densest Fog is seen,
When you can hear the fishers near at hand
Distinctly speak, yet see not where they stand;
Or sometimes them and not their boat discern,
Or half conceal'd some figure at the stern;
Boys who, on shore, to sea the pebble cast,
Will hear it strike against the viewless mast;
While the stern boatman growls his fierce disdain,
At whom he knows not, whom he threats in vain.

Unlike our English fogs those remarkable ones of Newfoundland prevail generally during the summer months, June, July, and August. They do not originate on shore, but at sea, and more especially in that part of it which washes over the Great Bank of Newfoundland. Mr. Jukes attributes the formation of these fogs chiefly to the meeting of two currents of the Gulf Stream, one charged with ice, and the other warm from the tropics. On the southern shore of Newfoundland when the wind does not blow from the south or west, a dense white fog prevails throughout the summer. This fog is low, and does not reach far into the country; the ascent of a hill two or three hundred feet high, being often sufficient to place the observer in the bright sunshine. Even on the low ground small breaks or open patches sometimes disclose the bright sun for a few minutes, but it is soon again shrouded by the dense white vapour. These fogs are not unhealthy, nor very unpleasant to the senses, and they rarely extend so far as the Gulf of St. Lawrence, St. George's Bay, or the western shore of Newfoundland They prevail along the southern shore, more especially in Placentia Bay and the neighbourhood of St. Pierre, but around St. John's, on the eastern side of the island, they may frequently be seen out at sea, while the land is basking in sunshine. Sometimes a strip of sea, about a mile broad, forms a belt around the shore, within which the fog does not penetrate, so that vessels suddenly emerging from the fog have found themselves in a clear atmosphere, within a mile of the shore. The appearance of a vessel coming thus through a wall of fog is described as most singular, her jib and then her foresails being seen to emerge before her mainmast comes into sight. Mr. Jukes also notices the singular appearance of the narrows during a light easterly wind. Overhead, in the harbour, and on the landward slope of the south side hills, the sun has been shining brilliantly while in the gorge of the narrows the fog might be seen boiling and rolling in huge white fleecy folds, creeping along the water or curling in wreaths of mist up the sides of the hills, and gradually dissipating as it advanced. Sometimes the crest of the ridge of the south-side hill was crowned by a long low line of fog that kept rolling over it, and pouring down upon its sunny sides without advancing an inch, the whole of the vapour being dissolved as soon as it came upon the warm air above the heated rocks. If, however, the wind blew harder from the east, or more especially the south-east, the fog was driven in more rapidly: it gradually advanced and prevailed, spreading over the harbour, and enveloping the whole country in its dense mantle. At night when the ground is cold the fog settles upon the land; and remains as long as the wind blows from the east or south-east. The moment, however, the wind shifts into the west or north, the fog is driven out to sea again, and retires to its strong-hold and permanent domain, the Great Bank. With northerly or westerly, or at St. John's with south-westerly winds, the atmosphere is always clear; but during the summer months a shift to the south or east will bring fog in greater or less time according to the strength of the wind. In Bonavista Bay, and along the northern shore of Newfoundland, there is comparatively little fog, the only wind that brings it being a north-easterly, or a very strong easterly wind.

ON THE MEANS OF ASCERTAINING THE AGE OF TREES.

It was the opinion of De Candolle, and it appears to be that of other eminent botanists, that trees cannot be said to die of old age in the real sense of the word, since their youth is constantly being renewed from year to year; but that we must attribute their decay chiefly to accidental causes. To exemplify this idea, the vast age at which some trees have arrived, and which it appears to be, under favourable circumstances, their ordinary habit to attain, is adduced by the distinguished naturalist above named. The Baobab, which Adanson has proved by ingenious and plausible calculations to be 5150 years old, the Taxodium, which analogous reasoning would make still older, and other examples less worthy of notice, seem to confirm the idea that there may be at present, some trees in the world, of immense antiquity, witnesses perhaps, of its later physical revolutions. "We can easily conceive," says De Candolle, "that errors may happen in calculations of this kind, and that they cannot be considered as the expressions of exact truth, until examples of this vegetable longevity are multiplied to such an extent as to support one another." The means of ascertaining the truth as it respects the longevity of trees, would be greatly increased were observations, such as we are about to record, more frequently made on the subject. The following account of the state and growth of timber, as noticed by Mr. Twining, and communicated by him to Silliman's *Journal*, will be read with interest by those with whom this is a favourite subject.

Mr. Twining was engaged, in the year 1827, in measuring and inspecting a large lot of hemlock timber cut from the north-eastern slope of East Rock, New Haven, (America,) and destined for the foundation of a wharf. While thus employed he took particular notice of the successive layers, each of which constitute a year's growth of the tree; and which in that kind of wood are very distinct. These layers were of various breadth, and plainly showed that in some seasons the trees made a much greater advance than in others, some of the layers being five or six times broader than others. Every tree had thus preserved a *record of the seasons*, for the period of its growth, whether thirty years or two hundred—and what was worthy of notice, *every tree told the same story*. Thus by beginning at the outer layer of two trees, the one young the other old, and counting back twenty years, if the young tree indicated, by a full layer, a *growing season* for that kind of timber, the older tree indicated the same.

Mr. Twining next observed that the growing seasons *clustered together*, and also the *meagre seasons* came in companies. Thus it was rare to find a meagre season immediately preceding or following a season of full growth; but if you commenced in a cluster of thin and meagre layers and proceeded on, it gradually enlarged, and swelled to the maximum, after which a decrease began and went on, until it terminated in a minimum. These seasons of full or of stunted growth, however, did not assume any degree of regularity in the period of their occurrence, but succeeded each other at irregular and uncertain intervals.

I had then before me (says this intelligent observer) two or three hundred *meteorological tables*, all of them as unerring as nature; and by selecting one tree from the oldest and sawing out a thin section from its trunk, I might have preserved one of the number to be referred to afterwards. It might have been smoothed on the one side by the plane, so as to exhibit its record to the eye with all the neatness and distinctness of a drawing. On the opposite side might have been minuted in indelible writing, the locality of the tree, the kind of timber, the year and month when cut, the soil where it grew, the side and point which faced the north, and every other circumstance which can possibly be supposed ever to have the most remote relation to the value of the table in hand. The lover of science will not be backward to incur such trouble, for he knows how often, in the pro-

gress of human knowledge, an observation or an experiment has lost its value by the disregard of some circumstance connected with it, which at the time was not thought worthy of notice. Lastly, there might be attached to the same section a written meteorological table compiled from the observations of some scientific person, if such observations had been made in the vicinity. This being done, why, in the eye of science, might not this *natural, unerring, graphical* record of seasons past, deserve as careful preservation as a curious mineral, or a new form of crystals?

Mr. Twining justly concludes, that if such observations as those made by him with respect to a particular lot of timber were found to hold true of trees in general, drawings, on a reduced scale, would soon find their way to the pages of scientific journals, so that we might then be able to compare the section of one kind of tree with that of another from the same locality—or to compare sections of the same kind of tree from different parts of the country. Such a comparison would elicit a mass of facts both with respect to the progress of the seasons, and their relation to the growth of timber, and might prove, hereafter, the means of carrying back our knowledge of the seasons through a period coeval with the age of the oldest forest trees, and in regions where scientific observation has not yet penetrated, nor a civilized people dwelt.

To ascertain the respective ages attained by different kinds of trees is not merely a curious inquiry which may pleasantly occupy the time of an enlightened observer of nature, but it is also one which may reasonably be expected to produce useful results, as determining points in the history of the globe, and throwing light on many parts of vegetable physiology and the art of forestry.

But in order to make observations on this subject that shall be really useful to the cause of science, we must first become acquainted with a few simple laws by which the growth of trees is regulated. Vegetables designed for the formation of trees are ranged under two heads, with which it is necessary that we become well acquainted. The first division contains a much larger number than the second, and presents more important objects for consideration. The vegetables in it have a woody body and bark, and their method of growth is to add every year a new woody layer on the *outside* of the preceding ones, and immediately within the bark. The new layers are therefore the most outward, and the whole division of vegetables is on this account named *exogenous*, which signifies increasing by addition to the outside. The second division is composed of vegetables whose trunks, very cylindrical and seldom branching, merely present a woody body, properly speaking without bark, whose outer fibres are older and harder, while the inner are younger and softer. As the newest and latest formed portions of these vegetables are *within*, the whole division is termed *endogenous*, which signifies increasing by addition to the centre.

Now to the first, or exogenous, class belong almost all the trees in the temperate parts of the world, and this class, therefore, has been made the subject of especial study by scientific men. While it is ascertained beyond a doubt that these trees grow by the addition each year of a new woody layer, it follows as a consequence that by the number of these layers, distinctly marked by the rings which are seen on cutting through the trunk or branch of a tree, we may ascertain with tolerable correctness the number of years which have passed since the tree or branch began to grow. The cut made through a branch determines the age of that branch, while that made through the trunk determines the age of the tree. The irregularities which sometimes occur are so trivial that they need not obstruct our inquiries, for we may take it as a general rule that the number of rings or layers indicates the number of years.

In order that the inspection may lead us to true results, we must not only count the number of the rings, but measure the width of each ring. This will give us the rate of growth in different seasons, as well as the age of the tree. Let us note the method followed by De Candolle in this respect: "Whenever I meet with a clean cut off an old tree," says the Professor, "which is sufficiently sound to enable me to discover its layers, I place a slip of paper on the branch from the centre to the circumference: on it I mark, with a pencil or pen, the junction of each zone, noting the side of the pith, of the bark, the name of the tree, its native country, and the particular observations which it has suggested. The collection of these slips, not unlike those in the shops of tailors, gives me an exact appreciation of the growth of trees, and the means of comparing them. I am in the practice of marking, in a more striking manner, the lines which indicate the tenths of years, and also of measuring the width from tenth to tenth. My measures being taken from the centre to the circumference give me the radius. I double the figures if I require the diameter; I sextuple them if I require the circumference of the ligneous body."

In the course of these examinations, it will be found that each species, after growing rapidly in youth, seems at a certain age to grow at a regular rate. This is explained with respect to forest trees, by considering that for the first fifty or sixty years the roots and branches of such trees, being unembarrassed in their growth, and not coming in contact with neighbouring trees, increase at liberty, but after that period, meeting with the roots or branches of their neighbours they receive a check, and are subsequently confined in their manner of growth.

De Candolle strongly recommends to travellers, and to those who live near extensive clearings of wood or dockyards, to prepare such tables as those just described. He believes that they would be of great advantage on the following accounts. First, we might be enabled to establish in every species its average increase annually, and thus on finding out the circumference of an exogenous tree we might discover its age almost to a certainty, and it should be observed that the principal differences occur during the first century, and that afterwards its growth is more uniform. Secondly, a knowledge of the average growth and solidity of one kind of wood being attained, we could form an opinion of the layers of each trunk by their thickness, if it depart less or more from the qualities peculiar to its species. Thirdly, if it be true that at a certain age (sixty to eighty years in oak-trees) every tree ceases to grow so rapidly and progresses more regularly, we might deduce precise rules as to the period when we should fell certain trees.

Where it is impossible to obtain a tranverse section of trunks, other modes are recommended, *i. e.*, to find out old trees, the date of which is known, and measure their circumference, and by that measure to calculate the age of other trees of the same species. It would even be useful to take the circumference of some very old trees which we may meet with, even though we are ignorant of the precise time when they were planted. Such measurements repeated at intervals would give some idea of the rate of growth in aged trees.

In the collection of Natural History at the Museum at Cassel, in Northern Germany, is a very interesting set of *volumes*, as they appear to be, though when examined they prove to be no real library, but specimens of the woods of five hundred different European trees, made up in the form of books. The back is formed of the bark; the sides, of the perfect wood; the top, of the young wood with narrow rings; the bottom, of the old wood, where the rings are wider apart. When one of the volumes is opened it proves to be a little box containing the flower, seed, fruit, and leaves of the tree, of which it is a specimen, either dried, or imitated in wax. Something of this kind, though with a more especial reference to the *age* of trees might be made an interesting portion of our own collections in natural history, both private and public.

LONDON: JOHN W. PARKER, PUBLISHER, WEST STRAND.